NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



BUDGET ESTIMATES

FISCAL YEAR 2006

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CONGRESSIONAL SUBMISSION

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE OPERATIONS RESEARCH AND FACILITIES FY 2006 OVERVIEW

SUMMARIZED FINANCIAL DATA

(\$ in thousands)

		FY 2005	FY 2006		
Operations Research and Facilities	FY 2004	CURRENTLY	BASE	FY 2006	INCREASE /
	ACTUALS	AVAILABLE	PROGRAM	ESTIMATE	DECREASE
Environmental Satellite Observing Systems	82,945	101,460	96,815	100,278	3,463
NOAA's Data Centers & Information Services	68,725	74,600	52,759	53,704	945
TOTAL	151,670	176,060	149,574	153,982	4,408
FTE	734	714	717	717	0

For FY 2006, NOAA is requesting a total of \$153,982,000 for National Environmental Satellite, Data, and Information Service (NESDIS) Operations, Research, and Facilities. As the NOAA satellite and information service, NESDIS is responsible for managing all aspects of remotely gathered environmental data. This includes procurement, launch, operation, product development, and product distribution for the nation's civil operational environmental satellites. Additionally, NESDIS manages the NOAA environmental data collections, and disseminates data and information to meet the needs of users in commerce, industry, agriculture, science and engineering, as well as federal, state, and local governments.

NESDIS has two sub-activities in the Operations, Research and Facilities appropriation: 1) Environmental Satellite Observing Systems; and 2) NOAA Data Centers and Information Services.

The goals of the Environmental Satellite Observing Systems include: (1) maintaining a system of polar-orbiting satellites to obtain global environmental data; (2) maintaining a system of geostationary satellites to provide near-continuous environmental observations of the Earth's western hemisphere; (3) acquiring, processing, and analyzing data from NOAA, the Department of Defense (DoD), and other earth-observing satellites; (4) supplying data, interpretations, and consulting services to users; (5) introducing new technology and processes to improve environmental satellite system capabilities; (6) determining requirements for future satellite systems, (7) operating, maintaining, and serving as the lead US agency for the Search and Rescue mission control center; (8) and demonstrating better ways to use and distribute data from NOAA, the National Aeronautic and Space Administration (NASA), and other satellites, aircraft, and laboratory investigations.

The Environmental Satellite Observing Systems sub-activity includes the following budget line items for FY 2006:

- Satellite Command and Control, including NOAA Satellite Operations Facility (NSOF) operations
- Product Processing and Distribution
- Product Development, Readiness, and Application
- Commercial Remote Sensing Licensing and Enforcement

The goal of the NOAA Data Centers & Information Services sub-activity is to provide worldwide environmental data and information products and services in the atmospheric, marine, solid earth, and solar-terrestrial sciences to meet the needs of users in commerce, industry, agriculture, science and engineering, the general public, and Federal, state, and local agencies. Environmental data and information maintained by NOAA are vital to every economic sector and are used in making decisions critical to; national defense; industrial productivity; energy development and distribution; world food supplies; public health, safety, and welfare; and development of natural resources. Environmental scientists and observers also have a critical need for a long time-series of historical and recent global data to assess long-term environmental trends, to evaluate the current state of the environment, and to predict future environmental conditions and events.

In FY2006, the NOAA Data Centers and Information Services sub-activity consists of the following budget line items:

- Archive, Access, and Assessment
- Coastal Data Development
- Regional Climate Centers
- Environmental Data Systems Modernization

NESDIS' activities support all four Mission Goals in the NOAA Strategic Plan: Protect, Restore, and Manage The Use of Coastal and Ocean Resources through an Ecosystem Approach to Management; Understand Climate Variability and Change To Enhance Society's Ability To Plan and Respond; Serve Society's Needs For Weather and Water Information; and Support The Nation's Commerce With Information For Safe, Efficient, and Environmentally Sound Transportation. Activities also support NOAA's Mission Support Goal to Provide Critical Support for NOAA's Mission.

Significant Adjustments-to-Base (ATBs): NOAA requests an increase of \$6,821,000 and 0 FTE to fund adjustments to base for NESDIS activities. The increase will fund the estimated FY 2006 Federal pay raise of 2.3 percent and annualize the FY 2005 pay raise of 1.5 percent. The increase will also restore rescissions taken in the FY 2005 Appropriation. Finally, it will provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Service Administration, including rent for the new NOAA Satellite Operations Facility (NSOF). The NSOF is GSA-owned and NOAA-leased. Due to the condition of FB 4, GSA has charged a below-market rental rate. NSOF is larger than the existing space in FB 4, and has a highly technical facility infrastructure that will be considerably more complex to operate. The FY 2006 request is based on occupancy expenditures for the entire fiscal year in the new facility, versus partial year funding in FY 2005. The increase in the rent will be \$4.8

million annually, with consolidated annual operating costs of \$7.7 million for FY 2006 and beyond, an increase of approximately 120 percent over current FB 4 rental rates. Another component of the increased costs is due to the fact that NOAA will be the sole occupant of the new facility, and cannot share costs with a second tenant.

NESDIS also requests the following transfers between line offices for a net change to NOAA of zero.

From Office	Line	To Office	Line	Amount
NESDIS	Product Development, Readiness & Application	OMAO	NOAA Corps	- \$20,000
NESDIS	Satellite Command and Control	Under Secretary and Associate Offices	General Counsel	-1 FTE and -\$37,000

The \$20,000 transferred to OMAO partially funds a NOAA Corps Officer position that benefits NESDIS. The General Counsel FTEs are being realigned to reflect funding of these FTE through the Office of General Counsel within program support.

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Subactivity: Environmental Satellite Observing Systems
Line Item: Satellite Command and Control

GOAL STATEMENT:

The goal of the Satellite Command and Control program is to provide efficient and secure command and control of 17 NOAA and Department of Defense (DoD) operational environmental satellites to ensure timely and uninterrupted delivery of data to users.

BASE DESCRIPTION:

The Nation requires an environmental satellite system capable of providing timely and accurate environmental data. Early warning of major weather events saves countless lives and prevents substantial property damage. Billions of dollars in damage and hundreds of lives are lost each year due to natural disasters. These losses would be significantly worse if NOAA satellite data and services were unavailable due to interference with, or the failure of, critical satellite command and data acquisition infrastructure.

The NOAA Satellite Command and Control program forms the backbone of the ground systems that command, control, and acquire data from on-orbit satellites with an estimated value of \$4.5 billion on a 24 hours per day, 365 days per year basis. The Satellite Command and Control program monitors satellite health and safety; schedules satellite operations and data acquisition to meet user needs; evaluates satellite systems performance; commands spacecraft; supports the National Aeronautics and Space Administration (NASA) during launch, activation, and evaluation of new satellites; and assesses satellite and ground station anomalies.

The Satellite Command and Control program provides the day-to-day operations of the NOAA Satellite Operations Control Center in Suitland, Maryland, and satellite command and data acquisition stations in Wallops, Virginia, and Fairbanks, Alaska. From these ground stations, NOAA operates and acquires data from Polar-orbiting Operational Environmental Satellites (POES), Geostationary Operational Environmental Satellites (GOES), and DoD Meteorological Satellite Program (DMSP). Data from other non-NOAA operational and research satellites are also received to support specific NOAA missions. The NOAA Satellite Command and Control program ensures acquisition and near real-time delivery of satellite data to product processing centers that, in turn, support NOAA's National Weather Service mission to protect lives and property during severe weather events.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

(Dollars in thousands)

Subactivity: Environmental Satellite Observing Systems	FY 2004 ACTUALS	FY 2005 CURRENTLY AVAILABLE	FY 2006 BASE PROGRAM	FY 2006 ESTIMATE	INCREASE / DECREASE
Line Item: Satellite Command and Control					
Satellite Command and Control	34,721	36,026	36,211	37,011	800
NSOF Operations	-	5,599	6,973	7,581	608
TOTAL	34,721	41,625	43,184	44,592	1,408
FTE	180	180	179	179	-

PROGRAM CHANGES FOR FY 2006:

<u>Satellite Command and Control (0 FTE and + \$1,408,000)</u>: NOAA requests an increase of \$1,408,000 and 0 FTEs for a total of \$44,592,000. Of these funds, \$800,000 will support additional operational requirements for NOAA and non-NOAA satellites, including Jason-2 operations. These funds will be used for software and engineering support necessary to ensure uninterrupted flow of environmental data from NOAA satellites. Data from non-NOAA satellites will be acquired to fulfill NOAA requirements.

The Jason-2 satellite measures sea level rise that affects many global communities. This activity will support the Jason-2/Ocean Surface Topography Mission (OSTM), proposed by Centre National d'Etudes Spatiales (CNES), the French Government space agency, the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), and the U.S. (NASA/NOAA). A four-agency partnership between NASA, CNES, NOAA, and EUMETSAT is reflected in the proposal for the launch of the OSTM/Jason-2 mission in 2007. OSTM/Jason-2 would become the first altimetry mission with the involvement of operational agencies as full partners in the endeavor. In this case, NOAA would have responsibility for real-time operations, including data processing and distribution.

NOAA is also requesting an increase of \$608,000 for increases in the rent, security, and operations and maintenance costs associated with the occupancy of the NOAA Satellite Operations Facility (NSOF) in Suitland, Maryland. The NSOF has been a joint General Services Administration (GSA) and NOAA activity and is a replacement facility for NOAA's satellite operations which were housed in Suitland Federal Office Building #4 (FB 4).

Performance Goals and Measurement Data:

The core capability of Satellite Command and Control will support the objective "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the DOC Strategic Goal of "Observe, protect, and manage the Earth's resources to

promote environmental needs". Satellite Command and Control falls under the Mission Support goal in the NOAA Strategic Plan. Since the command and control of 17 NOAA and DoD satellites is critical to the collection of data from these platforms, this activity supports the NOAA Performance Goals for Ecosystems, Climate, Weather and Water, and Commerce and Transportation. Satellite Command and Control also supports several NOAA GPRA measures, such as the GPRA measures for the Weather and Water: "Lead Time (minutes), accuracy (%), and False Alarm Rate (FAR %) of Severe Weather Warnings for Tornadoes", "Lead Time (minutes), accuracy (%) for Severe Weather Warnings for Flash Floods", and "Hurricane forecast track error (48 Hours)".

Performance Goals: Ecosystems; Climate; Weather and Water; Commerce and Transportation

Performance Measure	Without FY 2006 Increase	With FY 2006 Increase
Retrieve and deliver non-NOAA satellite data	Unable to retrieve and deliver new non-NOAA	Retrieve and deliver 98% of non-NOAA
(including Jason-2) for mission goal	data (including Jason-2)	data (including Jason-2) for mission goal
applications		applications

TERMINATIONS FOR FY 2006: A portion of the following program was terminated in FY 2006: Satellite Command and Control (\$1,000,000).

Subactivity: Environmental Satellite Observing Systems Line Item: Product Processing and Distribution

GOAL STATEMENT:

The Product Processing and Distribution (PP&D) program provides the Nation with specialized expertise and computing systems that ingest, process, analyze and distribute satellite-derived products and services that protect US lives and property while enhancing the Nation's environmental, national, homeland, and economic security. PP&D ingests data from Earth-observing satellites to provide the highest quality products and services to its users.

BASE DESCRIPTION:

PP&D provides satellite-derived products and services using data from NOAA, DoD, and NASA environmental satellites, as well as foreign and commercial spacecraft, to national and international customers and users on a 24 hours-per-day, 7 days-per-week basis. PP&D products enable NOAA to accurately track the location, extent and duration of severe weather such as hurricanes, tornadoes, and winter storms; support development of flash flood warnings; track volcanic ash clouds and severe winds that threaten aviation safety; detect remote wildland fires; monitor coastal ecosystem health; identify and monitor maritime hazards from sea ice; and assist in search and rescue activities. PP&D is the operational interface with NOAA's National Weather Service and supplies the satellite data that makes up more than 99 percent of the information used in numerical weather prediction models. PP&D provides approximately 450 operational products organized into three categories: Atmospheric, Oceanographic, and Terrestrial.

The PP&D program is constantly assessing and using data from advanced satellite sensors to improve operational support to its customers. It also supports activities to improve the effectiveness and interoperability of national systems for sharing natural disaster information. By using maps and data generated by remote- and land-based sensors, this information is made widely accessible to all government agencies and other entities involved in managing and mitigating the impacts of disasters. PP&D products are widely used by all branches of the US Armed Services and the Department of Homeland Security.

Included in the PP&D operations is NOAA's contribution to the joint National Ice Center, which monitors global sea ice conditions to support safe and effective maritime transportation in the Polar Regions, Great Lakes, and Arctic and North Atlantic waters. This service is critical to National Weather Service warnings in ice-prone sea lanes, US Coast Guard rescue attempts, and civilian and military shipping communities.

PP&D provides NOAA's contribution to the operations of the U.S. mission control center for satellite-assisted search and rescue program (SARSAT). Since SARSAT program's inception, more than 14,000 people have been saved worldwide. In 2003, NOAA expanded the SARSAT program to include the use of GPS Personal Locator Beacons. This has greatly improved the SARSAT program's ability to save lives faster than before.

NOAA, the U.S. Navy and the U.S. Coast Guard jointly operate the U.S. National Ice Center (NIC). The NIC supports civil and military maritime communities by monitoring global sea ice conditions to support safe and effective marine transportation.

Satellites provide the basic capability to rapidly and accurately observe these events; however, unprocessed satellite data cannot be used directly by these or other critical applications without the around-the-clock PP&D operations.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

(Dollars in thousands)

		FY 2005	FY 2006		
Subactivity: Environmental Satellite Observing Systems	FY 2004	CURRENTLY	BASE	FY 2006	INCREASE /
	ACTUALS	AVAILABLE	PROGRAM	ESTIMATE	DECREASE
Line Item: Product Processing and Distribution					
Product Processing and Distribution (MS)	18,777	22,401	22,594	22,994	400
Product Processing and Distribution (CT)	4,546	4,472	4,634	4,634	1
TOTAL	23,323	26,873	27,228	27,628	400
FTE	139	126	126	126	-

PROGRAM CHANGES FOR FY 2006:

<u>Product Processing and Distribution (0 FTE and + \$400,000)</u>: NOAA requests an increase of \$400,000 and 0 FTEs for a total of \$27,628,000 to enable NOAA to process the expected increase in the amount of satellite data required to meet NOAA's mission requirements. The increased funding will provide additional contractor support for operations, and hardware and software maintenance, and will allow NOAA to maintain critical services. It will support efforts to process non-NOAA satellite data from Jason-2 on an operational basis, and provide products to NOAA customers.

This funding level continues to support PP&D's transition of specific products, using non-NOAA data, into operational products (i.e., 24 hours per day, 7 day, 365 days per year). Products, derived from data from NASA Earth Observing Satellite (EOS) research and DoD satellites, provide value to products developed from NOAA's geostationary and polar satellites, and will enhance NOAA's warning and forecast efforts in tracking hurricanes, winter storms, flash flood warnings, and in monitoring oceanic and coastal ecosystem health. These products will enhance the over 450 environmental data products now processed and distributed to support customers including the National Weather Service, the Federal Aviation Administration, and the Departments of Agriculture, Defense, Energy, Homeland Security, and Interior.

Performance Goals and Measurement Data:

This activity supports both objectives under the DOC Strategic Goal: "Observe, protect, and manage the Earth's resources to promote environmental stewardship", and improves the value of NOAA's geostationary and polar orbiting satellites.

Product Processing and Distribution contributes to the Mission Support and Commerce and Transportations goals in the NOAA Strategic Plan. PP&D contributes to the GPRA measures for the Weather and Water Performance Goal: "Lead Time (minutes), accuracy (%), and False Alarm Rate (FAR %) of Severe Weather Warnings for Tornadoes", "Hurricane Forecast Track Error (48 Hours)", and "Lead time and accuracy (%) of winter storm warnings" through enhanced ability to process increasing data volume, which will improve warnings and forecasts.

Performance Goals: Mission Support, Commerce & Transportation

Performance Measure	Without FY 2006 Increase	With FY 2006 Increase
Process non-NOAA satellite data (including	Unable to process new non-NOAA data	Process 98% of non-NOAA data
Jason-2) and provide products for mission goal	products (including Jason-2)	(including Jason-2) for mission goal
applications		applications

TERMINATIONS FOR FY 2006: A portion of the following program was terminated in FY 2006: Product Processing and Distribution (\$500,000).

Subactivity: Environmental Satellite Observing Systems Line Item: Product Development, Readiness & Application

GOAL STATEMENT:

The goal of the NOAA's Product Development, Readiness, and Applications program (PDR&A) is to provide applications-focused research that will develop and evaluate prototype products, algorithms, and pre-operational products to improve existing operational satellite products and services using data from current and next generation environmental satellites.

BASE DESCRIPTION:

The Nation needs to enhance its use of satellite data to improve and extend weather forecasts, to expand environmental monitoring and assessment capabilities, and to provide new and improved tools for ecosystems-based management. In the next few years, the number and quality of satellite instruments will grow significantly, providing enhanced data capable of allowing major improvements in weather prediction accuracy. To make these improvements, targeted research and a cadre of scientists and computing systems dedicated to development is necessary. The PDR&A program ensures the highest accuracy of NOAA's current satellite data and products via a robust and rigorous operational environmental satellite data calibration/validation program. This effort improves product quality for the benefit of all users. The program supports pre-operational development of products for weather, atmospheric, climate, land, wildland fire, and oceans and coastal applications. NOAA's Ocean Remote Sensing Program supports sea surface temperature, ocean color, satellite altimetry, oceanic rainfall measurements, and coastal monitoring tools for the CoastWatch program. The Coral Reef Watch Program is collaborative effort under the auspices of NOAA's Coral Reef Matrix Team. PDR&A supports the development and maintenance of operational satellite products aimed at near real-time observation, monitoring and forecasting of environmental conditions conducive to deterioration of coral reef health, often resulting from coral reef bleaching events.

PDR&A supports a portion of the funding for the Joint Center for Satellite Data Assimilation (JCSDA), which accelerates the application of satellite data for improving weather forecast models. The JCSDA was established to speed the development of new satellite data assimilation science. NOAA (NWS, OAR, and NESDIS), NASA and DoD are partners in this coordinated national effort to more fully realize the potential of the vast quantities of new satellite data that are becoming available. The JCSDA is also a risk reduction measure designed to accelerate NPOESS data utilization for the development of numerical weather prediction models, and forecast models that will lead to increased accuracy and longer-range forecasts. In the next few years, the number and quality of satellite instruments will grow significantly, providing an exponential increase in higher quality data capable of allowing major improvements in the accuracy of weather prediction.

PDR&A also incorporates the latest academic findings into its work through competitively awarded Cooperative Institutes with academic institutions (Universities of Wisconsin, Maryland, Colorado State, and Oregon State, City College of New York). The academic expertise and the results of investigations are infused into product development, readiness, and applications that either lead to improvements in existing products or to the development of new products or sensors.

PDR&A also supports the Global Winds Demonstration Project, which is in the initial stages of technology development. Once the proof of concept has been completed in FY 2006, this program will either be phased out or transitioned to operational status.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

(Dollars in thousands)

		FY 2005	FY 2006		
Subactivity: Environmental Satellite Observing Systems	FY 2004	CURRENTLY	BASE	FY 2006	INCREASE /
	ACTUALS	AVAILABLE	PROGRAM	ESTIMATE	DECREASE
Line Item: Product Development, Readiness &					
Application					
Product Development, Readiness & Application	15,354	16,601	16,824	17,224	400
Product Development, Readiness & Application (Ocean	3,384	3,942	3,980	3,980	-
Remote Sensing)					
Coral Reef Monitoring	-	690	700	737	37
Research to Ops / NOAA-NASA partnerships	-	3,942	-	-	-
Joint Center/Accelerate Use of Satellites	1,475	2,168	2,197	3,291	1,094
Global Wind Demo	3,562	3,696	982	982	-
TOTAL	23,775	31,039	24,683	26,214	1,531
FTE	101	103	103	103	-

PROGRAM CHANGES FOR FY 2006:

Product Development, Readiness & Application (0 FTE and + \$1,531,000): NOAA requests an increase of \$1,531,000 and 0 FTEs for a total of \$26,214,000. An increase of \$400,000 provides for the continued development of satellite data applications and products in advance of the next generation instruments on future satellite systems, reducing the time between availability of the data and operational use. Product development supports atmospheric, climatic, oceanic, and terrestrial applications. A key component of this sub-activity includes collaboration with the scientific and academic community to leverage the best expertise into NOAA's satellite research and development activities. Funding in FY 2006 will support the development of applications and products from non-NOAA satellites, including Jason-2, NOAA's customers can use the data. An additional \$1,131,000 is requested to restore funds requested in FY 2005 that carry out base operations.

Performance Goals and Measurement Data:

These increases supports the objective: "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the DOC Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs". The increase requested in Product Development, Readiness & Application falls under the Mission Support goal in the NOAA Strategic Plan. The activity

supports the GPRA performance measures for the Weather and Water Performance Goal: "Lead time and accuracy (%) of winter storm warnings" and "Lead time (minutes) and accuracy (%) for Severe Weather Warnings for Flash Floods".

Performance Goal: Weather and Water.

Performance Measure	Without FY 2006 Increase	With FY 2006 Increase
Develop products utilizing non-NOAA satellite	Unable to develop new products derived from	Develop one new product per year
data for mission goal applications	non-NOAA satellite data sources	

TERMINATIONS FOR FY 2006: The following program, or portions thereof, are terminated in FY 2006: Product Development, Readiness & Application (\$300,000), Research to Ops/NOAA-NASA Partnerships (\$3,942,000), Global Wind Demo (\$2,714,000).

Subactivity: Environmental Satellite Observing Systems Line Item: Interagency Global Positioning System Executive Board Secretarial (IGEB)

GOAL STATEMENT:

The Interagency GPS Executive Board (IGEB) was established by Presidential directive in 1996 to manage the Global Positioning System (GPS) and its U.S. Government augmentations as a national asset

BASE DESCRIPTION:

The IGEB is a senior-level policy making body chaired jointly by the Departments of Defense and Transportation. Its membership includes the Departments of State, Commerce, Homeland Security, Interior, and Agriculture, as well as NASA and the Joint Chiefs of Staff. Through this program, NOAA funds the permanent Executive Secretariat, which provides day-to-day staff support to the IGEB principals. The Executive Secretariat is a point of contact for inquiries regarding GPS policy.

PROPOSED LEGISLATION:

(Dollars in thousands)

		FY 2005	FY 2006		
Subactivity: Environmental Satellite Observing Systems	FY 2004	CURRENTLY	BASE	FY 2006	INCREASE /
	ACTUALS	AVAILABLE	PROGRAM	ESTIMATE	DECREASE
Line Item: Interagency Global Positioning System					
Executive Board Secretarial (IGEB)					
Interagency Global Positioning System Executive Board	-	247	-	-	-
Secretarial (IGEB)					
TOTAL	-	247	-	-	-
FTE	-	-	-	-	-

PROGRAM CHANGES FOR FY 2006:

None.

TERMINATIONS FOR FY 2006: The following program was terminated in FY 2006: Interagency Global Positioning System Executive Board Secretarial (IGEB) (\$247,000). These activities are funded elsewhere within the Environmental Satellite Observing Systems subactivity.

Subactivity: Environmental Satellite Observing Systems Line Item: Commercial Remote Sensing Licensing & Enforcement

GOAL STATEMENT:

The Commercial Remote Sensing Licensing and Enforcement (CRSL&E) program works with its interagency and international partners to facilitate timely and well-informed regulatory decisions, which advance U.S. economic, foreign policy, and national security interests. The program licenses remote sensing space systems; performs associated research, monitoring and compliance activities; and ensures that the operation of these systems is consistent with the terms and conditions of their operating licenses.

BASE DESCRIPTION:

Commercial Remote Sensing Licensing & Enforcement:

The Nation requires a consistent and transparent regulatory process for licensing commercial remote sensing space systems in order to promote U.S. technological competitiveness and economic security, while ensuring satellite operation is consistent with our national security, intelligence, and foreign policy needs. The CRSL&E program supports these requirements while furthering the Nation's homeland security and national security missions.

The CRSL&E program coordinates interagency review of satellite license applications, amendments, and significant foreign agreements. NOAA licenses commercial remote sensing space systems and performs associated monitoring and compliance pursuant to the Secretary of Commerce's statutory responsibilities, which have been delegated to NOAA. Prior to issuing licenses, NOAA must consult with the Departments of Defense and State to ensure license compliance with national security and foreign policy, respectively. NOAA reviews licensees' ongoing procedures to protect sensitive data. NOAA also works closely with other U.S. Government agencies to implement policy and ensure international coordination. During national security or foreign policy crises, the Secretary of Commerce may exercise limitations on routine commercial operations in response to a request from the Secretary of Defense or the Secretary of State.

Major monitoring and compliance activities supported by NOAA include review of quarterly license reports, on-site inspections, audits, license violation enforcement, and implementation of restrictions during national security and foreign policy crises. The number of license applications and revocations vary each year, and are not predictable. The Department of Commerce's Bureau of Industry and Security is responsible for enforcement and ensuring compliance with the terms of the license agreements.

The current estimated global market for remote sensing imagery and services is approximately \$2.9 billion, and is forecast to grow to \$6.0 billion by 2010. Dramatic future growth is expected due to growing civil and military user requirements, improvements in aerospace and information technologies, and ecommerce. U.S. companies will provide exciting new sources of environmental products and services, which will strengthen our military capabilities, safeguard our economic infrastructure, and protect our natural resources. The regulatory framework, pursuant to the 2003 U.S. Commercial Remote Sensing Policy, recognizes the support that is required for growth of this industry. The CRSL&E program ensures a vigorous U.S. commercial remote sensing industry to support critical U.S. national security, foreign policy, and homeland security requirements, and advance our economic and technological interests worldwide.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

Office of Space Commercialization:

NOAA also manages the Office of Space Commercialization (OSC) for the Department of Commerce. The Department of Commerce plays a key role in the development of U.S. Government policies that foster the growth and competitiveness of the U.S. commercial space industry. It serves as an advocate for the industry within interagency deliberations affecting the future of space, encouraging the promotion of commercial interests as well as national security, foreign policy, and other interests. NOAA supports the Department's efforts to advance the development and implementation of the Administration's three new space sector policies for: commercial remote-sensing; positioning, navigation, and timing; and space transportation.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

(Dollars in thousands)

		FY 2005	FY 2006		
Subactivity: Environmental Satellite Observing Systems	FY 2004	CURRENTLY	BASE	FY 2006	INCREASE /
	ACTUALS	AVAILABLE	PROGRAM	ESTIMATE	DECREASE
Line Item: Commercial Remote Sensing Licensing &					
Enforcement					
Commercial Remote Sensing Licensing & Enforcement	1,126	1,085	1,120	1,244	124
Office of Space Commercialization	-	591	600	600	-
TOTAL	1,126	1,676	1,720	1,844	124
FTE	-	2	6	6	-

PROGRAM CHANGES FOR FY 2006:

<u>Commercial Remote Sensing Licensing & Enforcement (0 FTE and + \$124,000):</u> NOAA requests an increase of \$124,000 and 0 FTEs for a total of \$1,244,000. The increase restores funds requested in FY 2005 to carry out base operations.

Subactivity: NOAA's Data Centers & Information Services Line Item: Archive, Access & Assessment

GOAL STATEMENT:

The goal of Archive, Access, and Assessment (AAA) is to provide long-term archive, access (customer service), stewardship, and assessments of observation data to a wide range of worldwide users. Through NOAA's National Data Centers (NNDC), environmental data, information, products, and services support atmospheric, oceanographic, and the solid earth and solar-terrestrial physical sciences to facilitate sustained economic growth, scientifically sound environmental management, and public safety to the Nation and the international community.

BASE DESCRIPTION:

The AAA line item provides the core funding for the three NNDCs: the National Climatic Data Center, the National Oceanographic Data Center, and the National Geophysical Data Center. This line item also supports the nation-wide NOAA library system, and data rescue activities through the Climate Database Modernization Program (CDMP).

The NNDCs provide the Nation with the long-term stewardship archive of past, present, and future environmental observations and associated data recorded across the United States and globally. Access to long time series of environmental data is critical to satisfying the Nation's wide range of needs related to the national security, the economy, the environment, and public safety. Approximately one-third of U. S. economic activity is weather sensitive and this figure continues to increase. Business and government policies and decisions impacting water and energy management, manufacturing, transportation, food production, public health, and many other socio-economic issues depend on quality climate and weather data records. Collectively, the three national data centers acquire over one petabyte (10¹⁵) of new data annually, provide access to an archive exceeding 3.5 petabytes, and support over 100 million worldwide queries per year, providing data transfers to over two million customers. By 2017, the projected ingest of new data will exceed seven petabytes per year and the cumulative archive volume managed and accessible to customers will exceed 144 petabytes.

Climate Archive, Access, and Assessment: The National Climatic Data Center (NCDC), located in Asheville, North Carolina, is the largest climate data center in the world, and is the Nation's designated federal records center for climate data. The NCDC receives, processes, archives, provides access, disseminates, and conducts objective assessments of remote (satellite) and in-situ (land, ocean, and atmosphere) observations. National and international observing systems provide both a national and a global perspective of the Earth's dynamic environment and health. Paleoclimate "proxy" records, i.e., preinstruments, such as ice and coral cores, and tree rings, are also collected, archived, and made available to the global community of researchers and other interested users. The NCDC also manages the conversion of historical data records to electronic format and accessibility via the Internet through the Climate Database Modernization Program. Over the past three years, the NCDC, in cooperation with scientists and other NOAA activities and federal agencies, has designed and is deploying the Nation's first climate quality observing network, the U. S. Climate Reference Network (USCRN). The NCDC is a designated World Data Center (WDC) for Meteorology and WDC for Paleoclimatology.

The NCDC provides data, information, products and services to a large and diverse global community, delivering data and information to nearly two million customers each year. The NCDC provides access and data retrieval via the worldwide web/Internet, and also responds to thousands of requests received via e-mail, phone, fax, and the mail. The NCDC routinely produces operational products for climate monitoring, such as the U. S. Drought Monitoring and the State of the Climate reports, and is a major contributor to the North American Drought Monitoring Report. These and other assessments support business and government policy and decision makers and implementers. The NCDC works very closely with the Regional Climate Centers and state climatologists to provide support and services at regional and local levels.

Ocean Archive, Access, and Assessment: The National Oceanographic Data Center (NODC), located in Silver Spring Maryland, is the nation's permanent archive for oceanographic data, ensuring the public's access to and the scientific stewardship of the long-term observational record of the global ocean and its ecosystems. These holdings document the physical and chemical properties of the oceans, currents, weather and biota as observed from ships, buoys, satellites and other ocean and coastal platforms extending back nearly 150 years. The NODC serves more than 300,000 users annually through the Internet and a variety of publications including atlases and technical reports published on digital media and paper. Examples of the most requested products include the World Ocean Database and Atlas, the International Atlas of the Ocean series, and the World Ocean Circulation Experiment data set. The user community includes resource managers, researchers, educators, and maritime industry professionals from federal, state and local agencies as well as academia and the public. NODC is a designated WDC for Oceanography.

The NOAA library, located within the NODC, operates on behalf of all agency programs to support NOAA staff in their work and to provide the public with access to NOAA information. It includes the central library located in Silver Spring Maryland, and regional libraries in Seattle Washington, and Miami Florida. The central library also organizes agency-wide information services such as journal subscriptions and online reference services to support NOAA employees nationwide through 37 affiliated libraries at NOAA facilities throughout the United States. The NOAA library's collection currently consists of over 1.7 million volumes and thousands of electronic documents and visual images on topics related to NOAA's diverse missions

Geophysical Archive, Access, and Assessment: The National Geophysical Data Center (NGDC), located in Boulder Colorado, builds and maintains long-term archives of scientific data, with a special emphasis on scientific stewardship of data acquired by NOAA observing systems. Data holdings include bathymetry, solar, geophysical, space environment, and earth observing satellite data. The NGDC plays an integral role in the Nation's research into the environment, at the same time providing public domain data to a wide group of users. The NGDC: works very closely with NOAA's Space Environment Center to provide archive and access of space-based and terrestrial space weather observations; works with contributors of scientific data to prepare documented, reliable data sets, currently maintaining more than 850 digital and analog data sets; and continually develops data management programs that reflect the changing world of geophysics in an era of electronic data access. The NGDC operates World Data Centers for solid earth geophysics, marine geology and geophysics, solar terrestrial physics, and glaciology for the International Council of Science under the auspices of the U.S. National Academy of Sciences.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

(Dollars in thousands)

Subactivity: NOAA's Data Centers & Information Services	FY 2004 ACTUALS	FY 2005 CURRENTLY AVAILABLE	FY 2006 BASE PROGRAM	FY 2006 ESTIMATE	INCREASE / DECREASE
Line Item: Archive, Access & Assessment					
Archive, Access & Assessment - (C)	12,600	14,528	15,537	16,482	945
Archive, Access & Assessment - (CT)	1,766	2,244	2,388	2,388	-
Archive, Access & Assessment - (ECO)	8,328	7,656	8,140	8,140	-
Archive, Access & Assessment - (MS)	-	2,921	3,219	3,219	-
Archive, Access & Assessment - (WW)	2,524	3,205	3,411	3,411	1
Archive, Access & Assessment / Climate Database Modernization - (C)	22,135	-	-		-
Climate Database Modernization KY	-	7,811	2,045	2,045	-
Climate Database Modernization MD	-	5,421	1,496	1,496	-
Quality Assurance/Quality Control (NC)	-	1,479	408	408	-
Climate Database Modernization WV	-	7,811	2,155	2,155	-
GOES Data Archive Project	2,473	2,437	-	1	1
Payment to OMAO	297	328	-	-	-
TOTAL	50,123	55,841	38,799	39,744	945
FTE	303	290	290	290	-

PROGRAM CHANGES FOR FY 2006:

<u>Archive, Access & Assessment (0 FTE and + \$945,000):</u> NOAA requests an increase of \$945,000 and 0 FTEs for a total of \$39,744,000. The increase restores funds requested in FY 2005 to carry out base operations.

TERMINATIONS FOR FY 2006: The following programs, or portions thereof, are terminated in FY 2006: Climate Database Modernization: KY (\$5,766,000), Climate Database Modernization: MD (\$3,925,000), Climate Database Modernization Quality Assurance/Quality Control: NC (\$1,071,000), Climate Database Modernization: WV (\$5,656,000), GOES Data Archive Project (\$2,437,000), and Payment to OMAO (\$328,000).

Subactivity: NOAA's Data Centers & Information Services Line Item: Coastal Data Development

GOAL STATEMENT:

The goal of the Coastal Data Development (CDD) program is to provide increased utilization of coastal and oceanographic data using web-based search and access and geographic information systems (GIS) techniques, which will improve understanding, management and use of coastal areas.

BASE DESCRIPTION:

The CDD program is located at and managed by the National Coastal Data Development Center (NCDDC) at the Stennis Space Center, Mississippi. The focus of NCDDC is to improve the quality of web-based search and access tools and implement web-based access to priority data sets from federal, state, and local repositories. Geospatial display capabilities have been added that allow the user to link the data to coastal imagery, charts, bathymetry to obtain a complete "data picture" of the ecosystem of interest. To identify priority data sets, NCDDC coordinates with Federal, State, and local agencies, academic institutions, non-profit organizations and the private sector to create a unified, long term database of coastal data sets available from a variety of sources. The NCDDC develops and maintains a catalog of available coastal data, builds gateways to these sources, ensures the equality of the metadata, populates and updates the databases, and provides on-line search and access and geospatial display for the coastal user community.

The CDD program supports NOAA's Ecosystem strategic goal which aims to build the capacity of federal, state, local, and international managers to make decisions that protect, restore, and use coastal ecosystem services. The Earth's coastal ecosystems are home to a wealth of natural resources, and the lives and livelihoods of people are linked to these national treasures. Sustainable growth of our coastal regions is critical to our economy by supporting commercial and recreational fishing, waterborne commerce, home construction, and tourism.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

(Dollars in thousands)

Subactivity: NOAA's Data Centers & Information Services	FY 2004 ACTUALS	FY 2005 CURRENTLY AVAILABLE	FY 2006 BASE PROGRAM	FY 2006 ESTIMATE	INCREASE / DECREASE
Line Item: Coastal Data Development					
Coastal Data Development	4,456	4,510	4,576	4,576	-
TOTAL	4,456	4,510	4,576	4,576	-
FTE	-	-	-	-	-

PROGRAM CHANGES FOR FY 2006:

Subactivity: NOAA's Data Centers & Information Services Line Item: Regional Climate Centers

GOAL STATEMENT:

The National Climatic Data Center's Regional Climate Centers (RCC) Program was developed to meet local and regional needs for climate data, research-based information, and expertise.

BASE DESCRIPTION:

The funding for the RCC program is included in the Regional Climate Centers line of the budget. NOAA will contract with the six regional centers to improve access to accurate and reliable climate information. The centers also monitor and report current climate conditions in the regions they serve. The expertise and data resources of the RCC are available to assist in interpreting present conditions, quantifying climate variability, and assessing the likelihood of extreme weather events that often produce major social, economic and environmental impacts in a region.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

(Dollars in thousands)

Subactivity: NOAA's Data Centers & Information Services	FY 2004 ACTUALS	FY 2005 CURRENTLY AVAILABLE	FY 2006 BASE PROGRAM	FY 2006 ESTIMATE	INCREASE / DECREASE
Line Item: Regional Climate Centers					
Regional Climate Centers	2,072	2,464	-	-	-
International Pacific Research Ctr (U of H)	989	1,971	-	1	-
Pacific Ocean and Environmental Info Center	-	986	-	1	-
TOTAL	3,061	5,421	-	-	-
FTE	-	-	-	-	-

PROGRAM CHANGES FOR FY 2006:

None.

TERMINATIONS FOR FY 2006: The following programs, or portions thereof, are terminated in FY 2006: Regional Climate Centers (\$2,46,000), International Pacific Research Ctr (U of H) (\$1,971,000), Pacific Ocean and Environment Info Center (\$986,000).

Subactivity: NOAA's Data Centers & Information Services Line Item: Environmental Data Systems Modernization

GOAL STATEMENT:

The goal of Environmental Data Systems Modernization (EDSM) is to provide increased access and utility to environmental data, information, products, and services through the use of innovative technologies and techniques.

BASE DESCRIPTION:

Environmental data and information under the stewardship of NOAA are vital to a wide range of weather sensitive sectors of the economy such as, energy and water resources management, aviation, construction, engineering, utilities, food production (agriculture and aquaculture businesses), multi-modal commerce, tourism, manufacturing, and the insurance industry. Business and government leaders and researchers have critical needs for quality long time-series of historical and recent national and global data to evaluate the current status of the environment, to assess long-term environmental trends, and to predict future environmental conditions and events.

EDSM consists of three components: Satellite Active Archive (SAA), NOAA Virtual Data System (NVDS), and Environmental Systems Data and Information Management (ESDIM). The SAA provides immediate web-based digital access to satellite data. NVDS provides the NNDCs' partial operational and maintenance information technology support to fulfill their Access, Archive, and Assessments mission responsibilities. ESDIM is an annual NOAA-wide competitive, proposal driven process that supports data management initiatives associated with data access, data rescue, data quality and continuity, and technology innovation that improve NOAA's archiving and access (customer services) capabilities.

NOAA is developing an integrated, national and global observing system that will bring together all aspects of environmental monitoring on common platforms to ensure data quality, to manage data efficiently for the long-term, and to make these data easily and readily accessible. NOAA plans to accomplish these goals through a program of scientific data stewardship and integrated surface observations. Scientific data stewardship (i.e., collecting, processing, product development, access, distribution, archiving) consists of an integrated suite of functions to preserve and exploit the full scientific value of NOAA's environmental data. Successful implementation of stewardship will ensure maximum use of NOAA's environmental data, now and in the future. The Integrated Surface Observations activities will first support the development of a NOAA-wide plan and early prototype demonstration projects related to coordinating and integrating NOAA surface observing networks. Currently, 99 NOAA observing networks have been identified, and 40 are listed as operational (versus research) networks.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

(Dollars in thousands)

Subactivity: NOAA's Data Centers & Information Services	FY 2004 ACTUALS	FY 2005 CURRENTLY AVAILABLE	FY 2006 BASE PROGRAM	FY 2006 ESTIMATE	INCREASE / DECREASE
Line Item: Environmental Data Systems Modernization					
Environmental Data Systems Modernization	11,085	8,828	9,384	9,384	-
TOTAL	11,085	8,828	9,384	9,384	-
FTE	11	13	13	13	-

PROGRAM CHANGES FOR FY 2006:

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Department of Commerce National Oceanic and Atmospheric Administration Operations Research and Facilities Contribution to the NOAA Strategic Planning Goals and Objectives (Dollar amounts in thousands)

National Environmental Satellite, Data, and	FY	FY 2004		FY 2005		FY 2006		FY 2006		Inc/Dec	
Information Service	A	ctuals		rrently ailable	Base Program		Estimate		from Base		
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	
Climate											
Climate	163	51,651	158	54,064	158	31,025	158	31,970	-	945	
Total C	163	51,651	158	54,064	158	31,025	158	31,970	-	945	
Commerce and Transportation											
Commerce and Transportation	32	7,438	40	8,639	44	8,742	44	8,866	_	124	
Total CT	32	7,438	40	8,639	44	8,742	44	8,866	-	124	
Ecosystems											
Ecosystems	100	16,168	96	16,798	96	17,396	96	17,433	_	37	
Total ECO	100	16,168	96	16,798	96	17,396	96	17,433	-	37	
Mission Support											
Mission Support	409	72,414	391	87,244	390	86,803	390	89,011	-	2,208	
Total OE	409	72,414	391	87,244	390	86,803	390	89,011	_	2,208	
Weather and Water											
Weather and Water	30	3,999	29	9,315	29	5,608	29	6,702	_	1,094	
Total WW	30	3,999	29	9,315	29	5,608	29	6,702	-	1,094	
Total National Environmental Satellite, Data, and Information Service	734	151,670	714	176,060	717	149,574	717	153,982	-	4,408	

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Department of Commerce National Oceanic and Atmospheric Administration Operations Research and Facilities PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS

(Dollar amounts in thousands)

Activity: National Environmental											
Satellite, Data, and Information		FY 2004		FY 2005		FY 2006		FY 2006		Inc/Dec	
Service		Actuals		Currently Available		Base Program		Estimate		from Base	
		Personne	el Amount	Personn	el Amount	Personn	el Amount	Personnel Amount		Personnel Amount	
Environmental Satellite Observing S	Systems										
Satellite Command and Control	Pos/BA	187	34,721	188	41,625	187	43,184	187	44,592	-	1,408
	FTE/OBL	148	34,397	180	41,958	179	43,184	179	44,592	-	1,408
Product Processing and	Pos/BA	144	23,323	131	26,873	131	27,228	131	27,628	_	400
Distribution	FTE/OBL	110	22,650	126	27,466	126	27,228	126	27,628	-	400
Product Development, Readiness	Pos/BA	102	23,775	107	31,039	107	24,683	107	26,214	_	1,531
& Application	FTE/OBL	91	23,407	103	31,558	103	24,683	103	26,214	-	1,531
Interagency Global Positioning	Pos/BA				247	_					
System Executive Board Secretarial (IGEB)	FTE/OBL	-	-	-	247	-	-	-	-	-	-
Commercial Remote Sensing	Pos/BA	_	1,126	2	1,676	6	1,720	6	1,844	_	124
Licensing & Enforcement	FTE/OBL	-	912	2	2,012	6	1,720	6	1,844	-	124
Total Environmental Satellite	Pos/BA	433	82,945	428	101,460	431	96,815	431	100,278		3,463
Observing Systems	FTE/OBL	356	81,366	411	103,241	414	96,815	414	100,278	-	3,463
NOAA's Data Centers & Information Services											
Archive, Access & Assessment	Pos/BA	302	50,123	302	55,841	302	38,799	302	39,744	_	945
	FTE/OBL	205	50,111	290	56,587	290	38,799	290	39,744	-	945
Coastal Data Development	Pos/BA	_	4,456	_	4,510	_	4,576	_	4,576	_	_
Coustai Dani Dovelopiioin	FTE/OBL	-	4,267	-	4,722	-	4,576	-	4,576	-	-

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS

(Dollar amounts in thousands)

Activity: National Environmental		FY 2004		FY 2005		FY 2006		FY 2006		Inc/Dec	
Satellite, Data, and Information		Actuals		Currently Available		Base Program		Estimate		from Base	
Service		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount	
Regional Climate Centers	Pos/BA FTE/OBL	-	3,061 3,028	-	5,421 5,469	-	-	-	-	- -	-
Environmental Data Systems Modernization	Pos/BA FTE/OBL	11 30	11,085 11,170	13 13	8,828 9,052	13 13	9,384 9,384	13 13	9,384 9,384	-	-
Total NOAA's Data Centers & Information Services	Pos/BA	313	68,725	315	74,600	315	52,759	315	53,704	-	945
	FTE/OBL	250	68,576	303	75,830	303	52,759	303	53,704	-	945

Department of Commerce

National Oceanic and Atmospheric Administration Operations Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data, and Information Service

Subactivity: Environmental Satellite Observing Systems

	C ,	2006
	Object Class	Increase
23.1	Rental payments to GSA	608
25.1	Advisory and assistance services	82
25.2	Other services	1,879
25.5	Research and development contracts	547
41.1	Grants, subsides and contributions	347
99	Total Obligations	3,463

Department of Commerce

National Oceanic and Atmospheric Administration Operations Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data, and Information Service

Subactivity: NOAA's Data Centers & Information Services

•		2006
	Object Class	Increase
21	Travel and transportation of persons	12
25.2	Other services	543
25.3	Other purchases of goods and services from Govt accounts	149
31	Equipment	129
41	Grants, subsides and contributions	112
99	Total Obligations	945